

REMARKS

The Applicants' below-named representative would like to thank Examiner John Hardee for the helpful and courteous discussion of the issues in this application held on March 20, 2006. During this discussion, the differences between the present invention and the disclosure of U.S. Patent No. 5, 576,282 to Miracle et al. was discussed. The substance of this discussion is summarized and further expanded upon in the following remarks.

The invention is directed at a solid detergent composition provided in the form of a pellet or a block as a result of extrusion. The solid detergent composition comprises an effective amount of a cleaning agent to provide soil removal and an effective amount of a binding agent disbursed throughout the solid detergent composition to provide the detergent composition as a solid at a temperature of to about 100°F within about 20 minutes of extrusion. The cleaning agent comprises about 0.1 wt.% to about 20 wt.% of a surfactant based on the weight of the solid detergent composition, and about 1 wt.% to about 50 wt.% phosphonate, amino-carboxylate, or a mixture thereof based on the weight of the detergent composition. The binding agent comprises a result of mixing about 10 wt.% to about 80 wt.% alkali metal carbonate based on the weight of the detergent composition, about 1 wt.% to about 40 wt.% alkali metal bicarbonate based on the weight of the detergent composition, and a sufficient amount of water to react with the alkali metal carbonate and the alkali metal bicarbonate to provide solidification.

The invention is additionally directed to a method for solidifying a detergent composition. The method includes steps of mixing an effective amount of a cleaning agent to provide soil removable and an effective amount of a binding agent to solidify the detergent composition to form a mixture, extruding the mixture, and hardening the mixture to form the solid detergent composition in the form of a pellet or a block, wherein the hardening comprises a result of solidification by the binding agent, wherein the solid detergent composition has a melting temperature greater than 100°F within about 20 minutes of extruding the mixture.

The only rejection in the outstanding Office Action is a rejection of claims 1-4, 6, 10, 14-17, 20, and 28 under 35 U.S.C. §103(a) over U.S. Patent No. 5,576,282 to *Miracle et al.* This rejection is traversed.

Miracle et al. fail to disclose or suggest a solid detergent composition or a method for solidifying a detergent composition to provide an extruded solid in the form of a pellet or block as a result of solidification by a binding agent comprising about 10 wt.% to about 80 wt.% alkali

metal carbonate based on the weight of the detergent composition, about 1 wt.% to about 40 wt.% alkali metal bicarbonate based on the weight of the detergent composition, and a sufficient amount of water to react with the alkali metal carbonate and the alkali metal bicarbonate to provide solidification. *Miracle et al.* are not concerned with solidification to provide an extruded pellet or block using a binding agent according to the present invention.

There is no disclosure by *Miracle et al.* of a composition provided in the form of a pellet or a block as a result of extrusion. The outstanding Office Action points to *Miracle et al.* at column 11, lines 19-46, for the disclosure of various physical forms of the composition described by *Miracle et al.* These physical forms include granular or powder, liquid, gel, paste, tablets, and bars. None of the physical forms identified by *Miracle et al.* include pellets or blocks produced as a result of extrusion according to the present invention.

It is submitted that there is a difference between solids such as granules, tablets, powders, and bars according to *Miracle et al.*, and solids provided in the form of a pellet or block according to the present invention. The powders and granules disclosed by *Miracle et al.* are merely aggregates of loose material. The tablets disclosed by *Miracle et al.* are simply a result of compressing aggregate or powder. Furthermore, the bars disclosed by *Miracle et al.* are merely a result of the use of a waxy solid to hold other solid components of the composition together. For example, see Example VII of *Miracle et al.* that relies upon the presence of 30 wt.% C₁₂ linear alkyl benzene sulfonate and 2 wt.% coconut monoethanolamide as waxy solids that hold the composition together.

In contrast to *Miracle et al.*, the present invention utilizes a binding agent comprising 10 wt.% to about 80 wt.% alkali metal carbonate based on the weight of the detergent composition, about 1 wt.% to about 40 wt.% alkali metal bicarbonate based on the weight of the detergent composition, and a sufficient amount of water to react with the alkali metal carbonate and alkali metal bicarbonate to provide solidification of the solid detergent composition as a result of extruding to provide a solid detergent composition in the form of a pellet or a block. Clearly, *Miracle et al.* fail to disclose or suggest using a binding agent according to the present invention to provide a solid detergent composition.

Although *Miracle et al.* include some disclosure of the formation of a "laundry bar" there is no disclosure or suggestion by *Miracle et al.* that the laundry bar can be provided as a result of solidification using the binding agent according to the present invention.

In discussing *Miracle et al.*, the outstanding Office Action states:

"the composition typically comprise builders such as tripolyphosphates, carbonates, bicarbonates and sesquicarbonates (col. 12, lines 18+). Use of phosphonates is specifically disclosed at col. 12, line 32 and col. 14, lines 34+. Aminocarboxylate chelants (builders) are disclosed at col. 20, lines 5+. Solid compositions typically comprise 10-80% of builders. Use of combinations of ingredients, each disclosed as being used for the same purpose, is obvious, absent unexpected results."

It is recognized that *Miracle et al.* disclose various builders to be used as builders and chelants. *Miracle et al.*, however, do not disclose or suggest the use of a combination of alkali metal carbonate, alkali metal bicarbonate, and water to react with the alkali metal carbonate and alkali metal bicarbonate to provide solidification. The disclosure of carbonate and bicarbonate by *Miracle et al.* is not a disclosure that these components can be used for solidification. *Miracle et al.* fail to disclose how carbonate and bicarbonate can be used to provide solidification. In contrast, it is the inventors of the above-identified patent application who describe on pages 20 and 21 how alkali metal carbonate, alkali metal bicarbonate, and water can be used to provide solidification of a detergent composition. Clearly, the ingredients disclosed by *Miracle et al.* are not being used for the same purpose as provided by the presently claimed invention.

It is not merely the presence of alkali metal carbonate and alkali metal bicarbonate that causes the binding effect according to the present invention. As required by the presently pending claims, the water component is present in an amount sufficient to react with the alkali metal carbonate and the alkali metal bicarbonate to provide solidification of the detergent composition. This restriction on the amounts of alkali metal carbonate, alkali metal bicarbonate, and water so that the binding agent functions as a binding agent for the detergent composition is nowhere taught or suggested by *Miracle et al.*

The outstanding Office Action states:

"Use of an aqueous slurry is disclosed at col. 30, lines 35+. This makes obvious use of water to bring about reaction of carbonate and bicarbonate, and anything dried out of an aqueous slurry would perforce be hardened."

This statement in the outstanding Office Action is completely unsupported. The amount of water available for reaction with the alkali metal carbonate and the alkali metal bicarbonate according to the present invention is provided to control solidification. The Examiner's attention is directed to the specification at page 21, lines 6-14. The fact that *Miracle et al.* disclose a slurry at column 30, lines 35-40, is not a teaching by *Miracle et al.* of a solidifying agent according to the present invention. Clearly, there is no recognition or appreciation by *Miracle et al.* that water can be reacted with alkali metal carbonate and alkali metal bicarbonate to provide a binding agent that causes solidification of a detergent composition. It is the Applicants who discovered that the amounts of alkali metal carbonate, alkali metal bicarbonate, and water can be controlled to control the rate of solidification of a detergent composition. This discovery is nowhere appreciated by *Miracle et al.*

The statement in the outstanding Office Action that "anything dried out of an aqueous slurry would perforce be hardened" is simply an overbroad and incorrect statement. Hardening or solidification according to the present invention is a result of the presence of the binding agent and it is not simply allowing a composition to dry. There is clearly a technical difference between a powder or granular composition that results from allowing a composition to dry, and a hardened and solidified composition that results from the use of a binding agent according to the present invention. The use of a binding agent according to the present invention to provide for hardening by solidification is clearly discussed in the present specification at pages 20 and 21.

The outstanding Office Action expresses confusion over the limit provision in claims 1 and 14 that the binding agent is dispersed throughout the solid detergent composition "to provide the detergent composition as a solid at a temperature up to 100° F." This limitation means that the composition remains as a solid at temperatures up to about 100° F. There is no requirement that the composition remain as a solid above about 100° F. In fact, it is possible that if the composition is heated to a high enough temperature it will no longer be considered a solid.

The outstanding Office Action contends that "100 degrees F is not particularly hot." This might be true. Nevertheless, the limitation in the claims defines the composition as a solid under conditions that would normally be considered room temperature and includes those conditions up to about 100° F. Clearly, compositions that are liquids at room temperature and that would melt when exposed to heat when provided at a temperature up to about 100° F, would not be compositions according to the invention.

In view of the above comments, it is clear that *Miracle et al.* are not concerned with providing a detergent composition provided as an extruded solid in the form of a pellet or a block as a result of solidification by a binding agent wherein the binding agent comprises about 10 wt.% to about 80 wt.% alkali metal carbonate based on the weight of the detergent composition, about 1 wt.% to about 40 wt.% alkali metal bicarbonate based on the weight of the detergent composition, and a sufficient amount of water to react with the alkali metal carbonate and the alkali metal bicarbonate to cause solidification. One having ordinary skill in the art would recognize that *Miracle et al.* fail to suggest such a composition, and one having ordinary skill in the art would recognize that one would not inherently achieve such a composition from the disclosure of *Miracle et al.*

In view of the above comments, withdrawal of the rejection over *Miracle et al.* is requested.

The statement in the outstanding Office Action that the species election is withdrawn is appreciated.

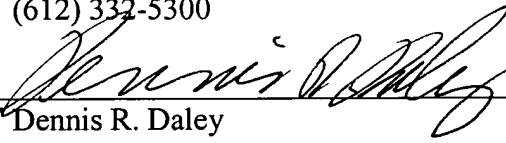
It is believed that this application is in condition for allowance. Early notice to this effect is earnestly solicited.

Respectfully submitted,

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